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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,279	12/22/2003	Juan Carlos De La Fuente De Ana	U 014955-3	4478

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EXAMINER	
DANG, ROBERT TRONG	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/743,279	DE LA FUENTE DE ANA ET AL.	
	Examiner	Art Unit	
	Robert T. Dang	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear if the fuel tank is required and we are not sure if protection from lightning strikes is required or exemplary. Also, it is not clear where the gap is. The claim is also mis-descriptive since figure 1 depicts mesh 1 under mesh 2, but the claim requires the opposite at line 7.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "If applicable is not clear".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bannink, Jr. et al (4502092) in view of Andrivet (6327132), Covey (4628402), and Covey (4839771).

As to claims 1 and 5, Bannink discloses in figures 1 & 5, a system of structural protection against electrical discharges, specially from lightning strikes, intended to fuel tanks that are fully or partially made of composite material and comprise an outer skin (10) of composite, an internal part (62) of either composite or metallic material and a row of metallic fasteners (22), each having a nut (65), which join the outer skin (10) with the internal part (62), the protection system consisting of a second metallic mesh (101) located under the first dielectric layer (105), a washer (63) placed between the nut (65) and the bottom of the internal part (62), and an organic finish (28) that covers the entire external surface of the structure to be protected, including the row of fasteners (22) (see col. 2, lines 56-68) characterized in that: the mesh (101) is a thin metallic wire mesh laid up and cured simultaneously with the outer skin of composite (see col. 3, lines 64-68). Bannink also discloses the internal part being made of metallic material, the protection system also includes a metallic countersunk washer installed to the row of fasteners at the gap existing between the fastener and the section built up by the outer skin and the internal part to be attached (see col. 2, lines 56-68 & col. 3, lines 1-9).

However, the reference does not explicitly disclose the first dielectric layer in the form of a thick metallic mesh and the distance at which the thick metallic mesh overlaps the thin metallic mesh up to a minimum of 50 mm at both sides of the row of fasteners and also does not disclose the metal countersunk washer installed to the row of fasteners every 200 mm at the gap existing between the fastener and the section built up by the outer skin.

Andrivet (6327132) teaches in figure 1, a structural protection system where the thick metallic mesh (see col. 3, lines 60-63) overlaps the thin metallic mesh (see col. 4, lines 1-13). It would've been obvious to one of ordinary skill in the art to modify the structure and place the thick wire mesh over the thin wire mesh so that if lightning struck, it would not attach itself to the skin member and spread to the fastener heads.

Covey (4628402) teaches a structural protection where the distance at which the thick metallic mesh overlapping the thin metallic mesh up to a minimum of 50 mm at both sides of the row of fasteners (see col. 3, lines 59-68 & col. 4. lines 15-30). It would've been obvious to one of ordinary skill in the art to modify the structure and place the thick wire mesh at such a distance in order to so that any lightning strike that attaches itself to the skin member cannot spread to the fastener.

Covey (4839771) teaches in figure 2, wherein the panels are 20 inch square (see col. 3, lines 65-68). That would mean that that the countersunk washer would be installed every 200 mm at the gap existing between the fastener and the section built up by the outer skin. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and install the countersunk washer at the distance disclosed above so that the area of lightning contact can be repaired locally without the repair of the entire panel.

As to claim 2, Bannink discloses wherein the metallic meshes are made of bronze (see col. 3, lines 64-68) and one of the outer skin material comprising of an epoxy matrix (see col. 4, lines 23-33) and carbon fibre (graphite fibres) material (see col. 3, lines 67-68). Bannink does not disclose the other mesh being made of bronze;

however, It would've been obvious to make the two meshed out of bronze to enhance surface conductivity.

As to claim 3, Bannink discloses in figure 2, characterized in that the washer is made of isolating material if the internal part (II) is composite while the said washer is metallic if the internal part (II) is also metallic (see col. 3, lines 37-48)

As to claim 4, Bannink discloses in figure 2, an isolating ply of fibreglass material or any other isolating material if the internal part is metallic (see col. 3, lines 37-39).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Dang whose telephone number is 571-272-8326. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KARL EASTHOM
SUPERVISORY PATENT EXAMINER